European Urology

European Urology 48 (2005) 642–649

Female Urology – Incontinence

Uterus Preservation in Surgical Correction of Urogenital Prolapse

Elisabetta Costantini[a,*], Luigi Mearini[a], Vittorio Bini[b], Alessandro Zucchi[a], Ettore Mearini[a], Massimo Porena[a]

[a]*Department of Urology, University of Perugia, Via Brunamonti 51, 06100 Perugia, Italy*
[b]*Department of Gynaecological, Obstetric and Paediatric Science, University of Perugia, Perugia, Italy*

Accepted 25 April 2005

Available online 23 May 2005

Abstract

Objective: This study aimed to evaluate the efficacy of colposacropexy with uterine preservation as therapy for uterovaginal prolapse. Surgical techniques, efficacy and overall results are described.

Methods: In this prospective, controlled study, 34 of the 72 consecutive patients with symptomatic uterovaginal prolapse were treated with colposacropexy with uterus conservation (hysterocolposacropexy, HSP) and the other 38 with hysterectomy followed by sacropexy (CSP). Anchorage was achieved with two rectangular meshes in CSP and with one posterior rectangular and one anterior Y-shaped mesh in HSP. Check-ups were scheduled at 3, 6 and 12 months and then yearly. Pre-operative patient characteristics, operative and post-operative events and follow-up results were recorded. Mean follow-up was 51 months (range 12–115).

Results: No significant differences emerged in demographic and clinical characteristics between the HSP and CSP groups. Mean operating times, intra-operative blood loss and hospital stay were significantly less after HSP ($p < 0.001$). At follow-up success rates were similar in the two groups in terms of uterine and upper vaginal support (100%). Recurrent low-grade cystoceles developed in 1/38 (2.6%) in the CSP group and in 5/34 (14.7%) in the HSP group (p = NS), recurrent low-grade rectocele developed in 6/38 (15.8%) and in 3/34 (8.8%) patients respectively (p = NS). No patient required surgery for recurrent vault or uterus prolapse. Urodynamic results showed that pressure/flow parameters improved significantly ($p < 0.001$) in both groups. Thirty-one of the 34 patients (91%) in the HSP group and 33/38 (86.8%) in the CSP group were satisfied and would repeat surgery again.

Conclusions: Colposacropexy provides a secure anchorage, restoring an anatomical vaginal axis and a good vaginal length. HSP can be safely offered to women who request uterine preservation. Whether the uterus was preserved or not, patients had similar results in terms of prolapse resolution, urodynamic outcomes, improvements in voiding and sexual dysfunctions. HSP has shorter operating times and less blood loss.

Keywords: Colposacropexy; Hysterocolposacropexy; Pelvic organ prolapse; Surgery

1. Introduction

For many years uterine prolapse has been an indication for hysterectomy [1], apart from the presence or absence of any uterine disease and independently of the patient's desires. Hysterectomy is still considered standard practice for correction of uterovaginal prolapse, even though descent of the uterus is a consequence, and not the cause, of prolapse [2]. In the past decades the lifestyles, beliefs and perspectives of women with regards to sexual function and pregnancy have undergone profound changes and many patients who undergo surgery for genital prolapse want to preserve the uterus. Uterine preservation during prolapse surgery is not new [2,3] and three surgical options are available: Manche-

* Corresponding author. Tel. +39 075 5783666; Fax: 39 075 5726123.
E-mail addresses: ecostant@unipg.it, uropg@rdn.it (E. Costantini).

0302-2838/$ – see front matter © 2005 Elsevier B.V. All rights reserved.
doi:10.1016/j.eururo.2005.04.022

ster repair [4], sacrospinous hysteropexy [2,5–7] and sacral hysteropexy [8–12]. Few studies on uterus preservation have been reported and there are no clear indications for uterus sparing or removal in open or vaginal surgery for advanced prolapse.

We have performed colposacropexy in women with uterovaginal prolapse for many years with satisfactory results [8,10]. This study was designed to determine whether, in the treatment of uterovaginal prolapse, sacropexy with uterus conservation is associated with less operative and post-operative morbidity and similar long-term outcomes as hysterectomy with sacropexy. We prospectively identified eligible patients and offered them the chance to avoid hysterectomy. In this first study on sacropexy with and without hysterectomy we describe the surgical techniques and compare efficacy and overall results.

2. Materials and methods

Institutional Research Committee approval was obtained.

We clearly outlined the surgical procedure, the risks associated with uterus preservation and the need for long-term check-ups. We acquainted fertile patients with pregnancy-related risks. Patients understood that the surgeon reserved the right to perform hysterectomy during surgery if necessary or advisable before providing informed consent.

Seventy-two consecutive patients with symptomatic grade III–IV uterovaginal prolapse were recruited between June 1995 and December 2003. All the women without uterine disease were offered the chance to preserve the uterus. Besides the patient's wishes, allocation to the uterine conservation group depended on satisfying the following criteria: no post-menopausal bleeding, no previous cervical intraepithelial neoplasia (CIN), no abnormal cervical smears or uterine disease including uterine enlargement or cervical ulceration. Hysterectomy was performed in 30 patients who wished to remove the uterus and in eight who did not satisfy preservation criteria. Previous prolapse or incontinence surgery, degree of pelvic prolapse or type of associated pelvic support defects did not influence group allocation.

Thirty-eight patients underwent hysterectomy and sacropexy (CSP) and 34 underwent hysterocolposacropexy (HSP). The preoperative work-up was carried out by independent specialists who were unaware of treatment assignment.

Before surgery, all patients provided a detailed case history and replied to a questionnaire on urinary symptoms (urogenital distress inventory). Patients underwent clinical urogynaecological examination, pelvic ultrasound scan to exclude uterine or ovarian disease and vaginal inspection in the gynaecological and standing positions, at rest and under maximum straining with a full bladder. The Halfway system was used to stage the prolapse [13]. Since 1996 we have used the POP-Q system for quantitative description of pelvic organ prolapse [14] together with the Halfway system in 57 patients (28 in the HSP group and 29 in the CSP group). Clinical neurological tests of the perineum and the lower limbs were normal in all patients. Urinary incontinence was assessed according to the ICS criteria [15] and graded according to the SEAPI-QMN classification [16]. Voiding dysfunction was diagnosed if the maximal urinary flow rate was <15 ml/s on two occasions with a voided volume of >150 ml and/or residual urine >100 ml [17].

Transrectal dynamic ultrasound scans, at rest and during straining, confirmed clinical findings: the distance between the bladder neck/proximal urethra and the longitudinal axis of the pubic symphysis was measured to assess urethrocele. The angle between the longitudinal axis of the pubis and the line starting at the lower edge of the symphysis (arcuate ligament) and passing through the lowest point of the bladder base was measured to quantify cystocele [18].

All patients underwent urodynamic testing complying with ICS standards: uroflowmetry, cystomanometry, urethral pressure profile, a pressure-flow study and the Valsalva leak point pressure (VLPP). Five patients underwent intravenous pyelography because of hydronephrosis (previously detected by abdominal ultrasound scan).

2.1. Surgical technique

All surgery was performed by or under the supervision of the senior author (M.P.).

In HSP and in colposacropexy the anterior vaginal wall is dissected from the bladder to expose a vaginal wall area of at least 3×5 cm where the mesh will be attached with four to five polyglycolic 0 sutures. The procedure is repeated for the posterior vaginal wall, which is freed as far as the elevator ani plane. In HSP two proximal sutures are positioned on the anterior and posterior cervical areas. Marlex meshes are cut into different shapes: both rectangular in CSP (Fig. 1), one rectangular and one Y-shaped in HSP (Fig. 2). The right and the left edges of the anterior Y-shaped mesh are passed through the broad ligaments, at an avascular point about 1 cm from the external part of the isthmus (Figs. 3 and 4). In our first eight cases we used only the posterior rectangular mesh but central cystocele recurred in five.

The sacral promontory surface is prepared and one or two non-reabsorbable 0.0 sutures are placed into the sacral periosteum about 2 cm below the promontory. A sub-peritoneal tunnel is created through which meshes are passed avoiding traction to the sacrum. The peritoneum is closed over the meshes. Anterior colposuspension

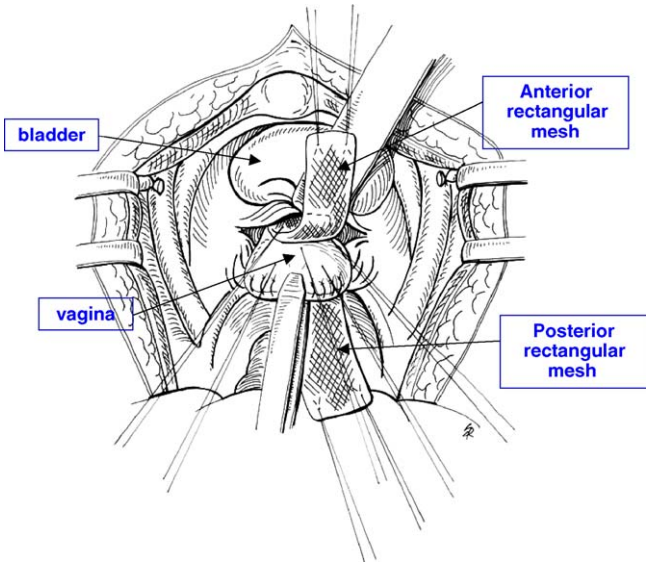

Fig. 1. In CSP the anterior and posterior vaginal walls are dissected from bladder and rectum respectively, four sutures are positioned on both vaginal walls where two rectangular meshes are fixed.